

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for addressing a network extension element for a synchronous optical network, comprising:

addressing an extension network element using a modified TLI message ~~for a command~~ including a session identifier in a field of the modified TLI message that originally contained an extended network element identifier in an original a TL1 message to set up a SONET connection;

~~processing the modified TLI message at the extension network element;~~

transmitting a response to the modified TLI message including the session identifier back to a network element;

determining a port to transmit the response based on the session ID included in the response;

replacing the session ID in the response with the extension network element identifier ~~of the response~~; and

forwarding a modified response including the network element identifier to the a source network element that transmitted of the original TL1 message using the port the original command.

2. (currently amended) The method according to claim 1, further comprising:

receiving a the TL1 message including the extension network element identifier in the field of the TL1 message at a network element specified in a TID field of the TL1 message, wherein the field is a general field in the TL1 message;

replacing the extension network element identifier with a the session identifier; and

transmitting the modified TL1 message to an extension network element.

3. (currently amended) The method according to claim 2, further comprising:

receiving the modified TL1 message at the extension network element; and
processing the modified TL1 message at the extension network element

4. (previously presented) The method according to claim 3, further comprising:

accepting the command response at the network element.

5. (currently amended) A method of extending an optical network, comprising:

receiving a command message from the optical network including a port identifier
specifying the port of a network element that is connected to an extension network
element;

replacing the port identifier with a session identifier in the command message
prior to the transmitting the command message to the extension network element

~~processing the command message at the extension network element;~~

sending a response message to the network element;

determining a port to transmit the response based on the session identifier
included in the response;

replacing the session identifier with the extension network element identifier of
the response; and

forwarding a modified response to a second network element.

6. (previously presented) The method according to claim 5, further comprising:

identifying a data communication channel corresponding to the port identifier; and
transmitting the command message to the extension network element over the
identified data communication channel.

7. (cancelled)

8. (cancelled)

9. (currently amended) The method according to claim 5 [[8]], further comprising:

transmitting the response message over the network.

10. (currently amended) A system for extending an optical network, comprising:

an extension network element for connection to a network element;

wherein the extension network element is configurable to:

~~process command messages received from a network element without regard
to the terminal identifier within the messages;~~

~~process receive modified command messages ~~received~~ from [[a]] the network
element ~~in connection with a local session identification established between the
network element and the extension network element~~ that includes a session identifier
in a field of the modified ~~TLI message~~ command messages that originally contained
an extended network element identifier; and~~

~~transmitting~~ transmit a response to the modified command messages
including the session identifier back to a network element: and

wherein the network element is configured to:

determine a port to transmit the response based on the session identifier
included in the response;

replace the session identifier with the extension network element identifier
of the response; and

forward modified responses to respective ~~sources~~ source network elements
that transmitted ~~of the~~ original command messages.

11. (cancelled)

12. (currently amended) The system according to claim 10 ~~[[11]]~~, wherein the extension network element exchanges command messages and responses with the network element via a data communication channel connection.

13. (currently amended) The system according to claim 10 ~~[[11]]~~, wherein the extension network element does not have a separate terminal identification stored in the routing table of network elements within the network to which the extension network element is connected.